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GARLICK HARRISON & MARKISON
P.O. BOX 160727
AUSTIN, TX 78716-0727

EXAMINER	
MATTIS, JASON E	

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/833,864
Filing Date: April 12, 2001
Appellant(s): FONG ET AL.

Kevin L. Smith
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 1/16/07 appealing from the Office action mailed 7/25/06.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

2001/0012279	Haumont et al.	8-2001
6,052,713	Kim	4-2000
6,553,032	Farley et al.	4-2003
2002/0012334	Strawczynski et al.	1-2002
6,507,572	Kumar et al.	1-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5 and 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haumont et al. (U.S. Publication US 2001/0012279 A1) in view of Kim (U.S. Pat. 6052713) and Farley et al. (U.S. Pat. 6553032).

With respect to claim 1, Haumont et al. discloses a method of operating a wireless communication system **(See the abstract of Haumont et al. for reference to operating wireless communication network)**. Haumont et al. also discloses determining an active set of base stations for servicing the mobile **(See page 5 paragraphs 61-69 and Figure 1 of Haumont et al. for reference to determining which BTS to transmit packets to from the BSC, with the BTS that receive the packets forming an active set of BTS for a mobile station MS)**. Haumont et al. further discloses downloading a group of blocks of data to a central buffer that services the active set of base stations **(See page 3 paragraph 45 to page 4 paragraph 49 and page 6 paragraph 79 for reference to downloading data packets, which form a group of blocks of data, to a memory 20, with memory 20 being in the form of a buffer that stores packets and for reference to the buffer being included in the base station controller in one embodiment)**. Haumont et al. also discloses for each of the active set of base stations, downloading a plurality of blocks of data from the central buffer **(See page 4 paragraph 50 to page 5 paragraph 61 and Figures 1 and 4 of Haumont et al. for reference to BSC2 transmitting data packets at various times to BTS1 and BTS2 that are determined to be in an active set for an MS1)**. Haumont et al. further discloses that each block of data includes a respective sequence number with the first block including an initial sequence number **(See page 3 paragraph 43 and Figure 2 of Haumont et al. for reference to each packet 10, which is a block of data, including information 14 relating to the identity of a packet that may comprise the number of a packet, with the first packet 10 to be**

sent to a MS1 including an initial number). Haumont et al. also discloses transmitting blocks of data from a serving base station to the mobile station **(See page 4 paragraph 50 for reference to transmitting data from BST1 to MS1)**. Haumont et al. further discloses receiving a sequence number form the mobile station for each block of data successfully received by the mobile station required **(See page 4 paragraphs 51-52, page 6 paragraph 79. and Figure 4 of Haumont et al. for reference to a BTS sending an acknowledgement of the number of a packet that has been received by an MS to the BSC, with the acknowledgement being used to determine that a next packet is ready to be sent to the active BTS)**. Although Haumont et al. does disclose using a plurality of distributed buffer memories in each BTS of the network, Haumont et al. does not disclose that these buffers exist in the embodiment that includes a buffer in the base station controller and that data is downloaded from the central buffer to a respective distributive buffer of each base station. While Haumont et al. discloses download a next block of data based on received acknowledgements, Haumont et al. does not specifically disclose when the sequence number of a block of data successfully received by the mobile station exceeds an initial sequence number by a threshold value, downloading a next plurality of blocks of data from a central buffer to each base station of the active set of base stations.

With respect to claim 13, Haumont et al. discloses a method of managing the contents of a plurality of data buffers in a wireless communication system **(See the abstract of Haumont et al. for reference to managing a wireless communication network that includes data buffers)**. Haumont et al. also discloses receiving a group

of blocks of data in a central buffer of a network element that manages a plurality of base stations of a wireless communication system **(See page 3 paragraph 45 to page 4 paragraph 49 and page 6 paragraph 79 for reference to downloading data packets, which form a group of blocks of data, to a memory 20, with memory 20 being in the form of a buffer that stores packets and for reference to the buffer being included in a base station controller that manages a plurality of base transceiver stations in one embodiment)**. Haumont et al. further discloses downloading a plurality of blocks of data from the central buffer to a plurality of base stations forming an active set of base stations servicing a mobile station **(See page 4 paragraph 50 to page 5 paragraph 61 and Figures 1 and 4 of Haumont et al. for reference to BSC2 transmitting data packets at various times to BTS1 and BTS2 that are determined to be in an active set for an MS1)**. Haumont et al. also discloses that each block of data includes a respective sequence number with the first block including an initial sequence number **(See page 3 paragraph 43 and Figure 2 of Haumont et al. for reference to each packet 10, which is a block of data, including information 14 relating to the identity of a packet that may comprise the number of a packet, with the first packet 10 to be sent to a MS1 including an initial number)**. Haumont et al. further discloses transmitting blocks of data from a serving base station to the mobile station **(See page 4 paragraph 50 for reference to transmitting data from BST1 to MS1)**. Haumont et al. also discloses receiving a sequence number form the mobile station for each block of data successfully received by the mobile station required **(See page 4 paragraphs 51-52, page 6 paragraph 79.**

and Figure 4 of Haumont et al. for reference to a BTS sending an acknowledgement of the number of a packet that has been received by an MS to the BSC, with the acknowledgement being used to determine that a next packet is ready to be sent to the active BTS). Although Haumont et al. does disclose using a plurality of distributed buffer memories in each BTS of the network, Haumont et al. does not disclose that these buffers exist in the embodiment that includes a buffer in the base station controller and that data is downloaded from the central buffer to a respective distributive buffer of each base station. While Haumont et al. discloses download a next block of data based on received acknowledgements, Haumont et al. does not specifically disclose when the sequence number of a block of data successfully received by the mobile station exceeds an initial sequence number by a threshold value, downloading a next plurality of blocks of data from a central buffer to each base station of the active set of base stations.

With respect to claims 1 and 13, Kim, in the field of communications discloses a base station subsystem of a digital cellular system that includes a central buffer located serving a set of base stations and a distributed buffer located in each of the base stations with data being downloaded from the central buffer to the distributed buffers **(See column 1 lines 15-63, column 3 line 50 to column 4 line 23, and Figure 1 of Kim for reference to a base station subsystem 1 that includes both a base station controller (BSC) 12 and a base station transceiver subsystem (BTS) 14 with data that is to be transmitted by the BTS 14 being first downloaded into a memory of the BSC 12, with this memory being equivalent to a central buffer, and**

then downloaded from the memory of the BSC 12 to a memory of the BTS 14, with this memory being equivalent to a distributed buffer). Using a plurality of distributed buffer memories in each base station of a wireless communication network in addition to a central buffer has the advantage of allowing a base station to directly control the retransmission of a data packet that is not acknowledged as being correctly received by a mobile station without having to again receive the data packet form the base station controller.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Kim, to combine using a plurality of distributed buffer memories in each base station of a wireless communication network in addition to a central buffer, as suggested by Kim, with the system and method of Haumont et al., with the motivation being to allow a base station to directly control the retransmission of a data packet that is not acknowledged as being correctly received by a mobile station without having to again receive the packet form the base station controller.

With respect to claims 5 and 17, Haumont et al. discloses that the mobile station reports the sequence number of a successfully received block of data to its serving base station **(See page 4 paragraphs 51-52, page 6 paragraph 79. and Figure 4 of Haumont et al. for reference to a BTS sending an acknowledgement of the number of a packet that has been received by an MS to a BTS)**. The combination of Haumont et al. and Kim does not disclose determining that the sequence

number of the successfully received block exceeds an initial sequence number by a threshold value.

With respect to claims 1, 5, 13, and 17, Farley et al., in the field of communications, discloses using sliding window protocol in a wireless communications system **(See column 2 lines 27-39 of Farley et al. for reference to sliding window protocol)**. Farley et al. also discloses that in sliding window protocol, mobile units send acknowledgements specifying sequence numbers to sending units to acknowledge each packet sent **(See column 2 lines 27-48 of Farley et al. for reference to sending acknowledgements specifying sequence numbers of received packets)**. Farley et al. further discloses that when an acknowledgment received by the sending unit specifies a packet sequence number above a threshold, which is related to a sliding window, the sliding window is moved and the next data packet is downloaded to the mobile unit **(See column 2 lines 27-48 of Farley et al. for reference to this process)**. Using sliding window protocol has the advantage of creating a way to keep a transmission buffer full while only sending an amount of data that a mobile unit can handle.

It would have been obvious to one of ordinary skill in the art at the time of the invention, when presented with the work of Farley et al., to combine the use of sliding window protocol, as suggested by Farley et al., with the system and method of base station buffer management disclosed by Haumont et al. and Kim, with the motivation being to create a way to keep the base station transmission buffers full with current data while only sending an amount of data that a mobile unit can handle.

With respect to claims 2 and 14, Haumont et al. also discloses that the central buffer is serviced by a base station controller with the base station controller servicing a plurality of base stations **(See page 4 paragraph 49 and page 6 paragraph 79 and Figure 4 of Haumont et al. for reference to a memory 20 in the form of a buffer that stores packets and for reference to the buffer being included in the base station controller in one embodiment)**.

With respect to claims 3 and 15, Haumont et al. discloses that the central buffer is serviced by a services gateway switching node that services a plurality of base stations **(See page 3 paragraph 45 and Figure 4 of Haumont et al. for reference to base station controller BSC2 that has an interface to mobile switching center MSC, which is a services gateway switching node, that services the buffer of the BSC2 by downloading packets to the buffer)**.

With respect to claims 4 and 16, Haumont et al. discloses that only one base station of the active set of base stations services forward link transmission to the mobile station at any particular time **(See page 4 paragraph 50 to page 5 paragraph 60 of Haumont et al. for reference to only one BTS transmitting packets to a MS at a give time and for reference to performing a hard handoff meaning that a connection between a MS and a BTS is broken before a connection between a MS and a new BTS is made)**.

Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haumont et al. in view Kim and Farley et al. as applied to claims 1-5 and 13-17 above, and further in view of Strawczynski et al. (U.S. Publication 2002/0012334 A1).

With respect to claims 6 and 7, the combination of Haumont et al., Kim, and Farley et al. does not disclose the system supporting the 1xEV-DO standard or the High Speed Downlink Packet Access standard.

With respect to claims 6 and 7, Strawczynski et al., in the field of communications, discloses a wireless communications system compatible with the 1xEV-DO standard and the HSDPA standard **(See page 1 paragraph 12 of Strawczynski et al. for reference to wireless systems using both the 1xEV-DO standard and the HSDPA standard)**. Using the 1xEV-DO standard and the HSDPA standard has the advantage of using currently developed high-speed data rate standards without having to create a new standard.

It would have been obvious to one of ordinary skill in the art at the time of the invention, when presented with the work of Strawczynski et al., to combine the use of the 1xEV-DO standard and the use of the HSDPA standard, as suggested by Strawczynski et al., with the forward link data transmission system and method of Haumont et al., Kim, and Farley et al., with the motivation being to use currently developed high-speed data rate standards without having to create a new standard.

Claims 8, 11-12, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haumont et al. in view of Kim et al.

With respect to claim 8, Haumont et al. discloses a method of managing the contents of a plurality of data buffers in a wireless communication system **(See the abstract of Haumont et al. for reference to managing a wireless communication network that includes data buffers)**. Haumont et al. also discloses receiving a group of blocks of data in a central buffer of a network element that manages a plurality of base stations of a wireless communication system **(See page 3 paragraph 45 to page 4 paragraph 49 and page 6 paragraph 79 for reference to downloading data packets, which form a group of blocks of data, to a memory 20, with memory 20 being in the form of a buffer that stores packets and for reference to the buffer being included in a base station controller that manages a plurality of base transceiver stations in one embodiment)**. Haumont et al. further discloses downloading a plurality of blocks of data from the central buffer to a plurality of base stations forming an active set of base stations servicing a mobile station **(See page 4 paragraph 50 to page 5 paragraph 61 and Figures 1 and 4 of Haumont et al. for reference to BSC2 transmitting data packets at various times to BTS1 and BTS2 that are determined to be in an active set for an MS1)**. Haumont et al. also discloses transmitting blocks of data from a serving base station to the mobile station **(See page 4 paragraph 50 for reference to transmitting data from BST1 to MS1)**. Haumont et al. further discloses determining that a buffer refresh is required **(See page 4 paragraphs 51-52, page 6 paragraph 79. and Figure 4 of Haumont et al. for reference to a BTS sending an acknowledgement of the number of a packet that has been received by an MS to the BSC, with the acknowledgement being used to determine that a**

next packet is ready to be sent to the active BTS). Haumont et al. further discloses downloading a next plurality of blocks of data of the group of blocks of data stored in the central buffer to each base station of the active set of base stations **(See page 4 paragraphs 51-52 and page 6 paragraph of Haumont et al. for reference to transmitting the next packet to be sent from the BSC to the active BTS once an acknowledgement of a previously sent packet has been received by the BSC)**. Although Haumont et al. does disclose using a plurality of distributed buffer memories in each BTS of the network, Haumont et al. does not disclose that these buffers exist in the embodiment that includes a buffer in the base station controller and that data is downloaded from the central buffer to a respective distributive buffer of each base station.

With respect to claim 18, Haumont et al. discloses a base station controller comprising a packet data serving node interface and at least one base station interface that interfaces the base station controller to a plurality of base station **(See page 3 paragraph 45 and Figure 4 of Haumont et al. for reference to base station controller BSC2 that has an interface to mobile switching center MSC, which is a packet data serving node, and interfaces to base stations BST1, BTS2, and BTS3)**. Haumont et al. also discloses a central buffer **(See page 4 paragraph 49 and page 6 paragraph 79 and Figure 4 of Haumont et al. for reference to a memory 20 in the form of a buffer that stores packets and for reference to the buffer being included in the base station controller in one embodiment)**. Haumont et al. further discloses a digital process that causes the base station to execute software instructions **(See**

page 3 paragraph 45 to page 6 paragraph 60 and Figures 1 and 4 of Haumont et al. discloses the base station controller processing instructions to perform a method). Haumont et al. also discloses storing a group of blocks of data in the central buffer **(See page 3 paragraph 45 to page 4 paragraph 49 and page 6 paragraph 79 for reference to storing data packets, which form a group of blocks of data in the memory 20)**. Haumont et al. further discloses determining an active set of base stations for servicing a mobile station **(See page 5 paragraphs 61-69 and Figure 1 of Haumont et al. for reference to determining which BTS to transmit packets to from the BSC, with the BTS that receive the packets forming an active set of BTS for a mobile station MS)**. Haumont et al. also discloses downloading a plurality of blocks of data of the groups of blocks of data stored in the central buffer to each base station of the active set of base stations **(See page 4 paragraph 50 to page 5 paragraph 61 and Figures 1 and 4 of Haumont et al. for reference to BSC2 transmitting data packets at various times to BTS1 and BTS2 that are determined to be in an active set for an MS1)**. Haumont et al. further discloses that each block of data includes a respective sequence number with the first block including an initial sequence number **(See page 3 paragraph 43 and Figure 2 of Haumont et al. for reference to each packet 10, which is a block of data, including information 14 relating to the identity of a packet that may comprise the number of a packet, with the first packet 10 to be sent to a MS1 including an initial number)**. Haumont et al. also discloses receiving an indication from a serving base station of the active set of base stations that a data refresh is required **(See page 4 paragraphs 51-52, page 6**

paragraph 79. and Figure 4 of Haumont et al. for reference to a BTS sending an acknowledgement of the number of a packet that has been received by an MS to the BSC, with the acknowledgement being used to determine that a next packet is ready to be sent to the active BTS). Haumont et al. further discloses downloading a next plurality of blocks of data of the group of blocks of data stored in the central buffer to each base station of the active set of base stations **(See page 4 paragraphs 51-52 and page 6 paragraph of Haumont et al. for reference to transmitting the next packet to be sent from the BSC to the active BTS once an acknowledgement of a previously sent packet has been received by the BSC)**. Although Haumont et al. does disclose using a plurality of distributed buffer memories in each BTS of the network, Haumont et al. does not disclose that these buffers exist in the embodiment that includes a buffer in the base station controller and that data is downloaded from the central buffer to a respective distributive buffer of each base station.

With respect to claims 8 and 18, Kim, in the field of communications discloses a base station subsystem of a digital cellular system that includes a central buffer located serving a set of base stations and a distributed buffer located in each of the base stations with data being downloaded from the central buffer to the distributed buffers **(See column 1 lines 15-63, column 3 line 50 to column 4 line 23, and Figure 1 of Kim for reference to a base station subsystem 1 that includes both a base station controller (BSC) 12 and a base station transceiver subsystem (BTS) 14 with data that is to be transmitted by the BTS 14 being first downloaded into a memory of the BSC 12, with this memory being equivalent to a central buffer, and**

then downloaded from the memory of the BSC 12 to a memory of the BTS 14, with this memory being equivalent to a distributed buffer). Using a plurality of distributed buffer memories in each base station of a wireless communication network in addition to a central buffer has the advantage of allowing a base station to directly control the retransmission of a data packet that is not acknowledged as being correctly received by a mobile station without having to again receive the data packet form the base station controller.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Kim, to combine using a plurality of distributed buffer memories in each base station of a wireless communication network in addition to a central buffer, as suggested by Kim, with the system and method of Haumont et al., with the motivation being to allow a base station to directly control the retransmission of a data packet that is not acknowledged as being correctly received by a mobile station without having to again receive the packet form the base station controller.

With respect to claims 11 and 19, Haumont et al. discloses that only one base station of the active set of base stations services forward link transmission to the mobile station at any particular time **(See page 4 paragraph 50 to page 5 paragraph 60 of Haumont et al. for reference to only one BTS transmitting packets to a MS at a give time and for reference to performing a hard handoff meaning that a connection between a MS and a BTS is broken before a connection between a MS and a new BTS is made).**

With respect to claim 12, Haumont et al. also discloses that the central buffer is serviced by a base station controller with the base station controller servicing a plurality of base stations **(See page 4 paragraph 49 and page 6 paragraph 79 and Figure 4 of Haumont et al. for reference to a memory 20 in the form of a buffer that stores packets and for reference to the buffer being included in the base station controller in one embodiment)**.

Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haumont et al. in view of Kim as applied to claims 8, 11-12, and 18-19 above, and further in view of Kumar et al. (U.S. Pat. 6507572).

With respect to claims 9 and 10, the combination of Haumont et al. and Kim does not disclose the central buffer supports centralized link layer buffering operations and that the plurality of distributed buffers support distributed link layer buffering operations and the central buffer and the plurality of distributed buffers support the radio link protocol.

With respect to claims 9 and 10, Kumar et al., in the field of communications, discloses a wireless communications system with a central buffer, a queue of the frame selection/distribution function 106, and a plurality of distributed buffers, queues of the base stations 110, that support radio link protocol **(See column 1 lines 22-58 and items 104, 106, and 110 in Figure 1 of Kumar et al. for reference to the wireless communication system supporting a radio link protocol function 104)**. Since the system of Kumar et al. supports radio link protocol, which is a link layer protocol, the

central buffer, queue of the frame selection/distribution function 106, and distributed buffers, queues of the base stations 110, both support link layer buffering operations. Using radio link protocol and link layer buffering has the advantage of providing a reliable existing way to control the transmission of data from the central buffer to the distributed buffers.

It would have been obvious to one of ordinary skill in the art at the time of the invention, when presented with the work of Kumar et al., to combine the use of radio link protocol and link layer buffering, as suggested by Kumar et al., with the forward link data transmission system and method of Haumont et al. and Kim, with the motivation being to provide a reliable existing way to control the transmission of data from the central buffer to the distributed buffers.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haumont et al. in view Kim as applied to claims 8, 11-12, and 18-19 above, and in further of Strawczynski et al.

With respect to claim 20, the combination of Haumont et al. and Kim does not disclose that the base station controller supports the 1xEV-DO standard.

With respect to claim 20, Strawczynski et al., in the field of communications, discloses a wireless communications system compatible with the 1xEV-DO standard **(See page 1 paragraph 12 of Strawczynski et al. for reference to wireless systems using the 1xEV-DO standard)**. Using the 1xEV-DO standard has the advantage of

using a currently developed high-speed data rate standard without having to create a new standard.

It would have been obvious to one of ordinary skill in the art at the time of the invention, when presented with the work of Strawczynski et al., to combine the use of the 1xEV-DO standard, as suggested by Strawczynski et al., with the forward link data transmission system and method of Haumont et al. and Kim, with the motivation being to use a currently developed high-speed data rate standard without having to create a new standard.

(10) Response to Argument

In response to Applicant's argument that Haumont et al. teaches against providing the same data to each base station coupled to a controller (See section 1. a. of Applicant's arguments on page 12 of the Appeal Brief), the Examiner respectfully disagrees. Haumont et al. teaches a method of transmitting packets where a base station controller transmits the same data packets to both a first base station and a second base station (See page 1 paragraph 10 of Haumont et al. for reference to providing at least some of the packets of data to be transmitted to the second station, which is a mobile station, to both the first and third stations, which are a first and second base station transceiver, and See page 3 paragraphs 45-48 of Haumont et al. for reference to transmitting the same data packets to both the first and second base station transceiver depending on the location of the mobile station). It is clear from

these two cited sections that Haumont et al. does not teach away from providing the same data to each base station coupled to a controller, as claimed. Although Haumont et al. does disclose that it is undesirable to transmit "all data packets" to a group of neighboring base station transceivers (See page 1 paragraph 5 of Haumont et al.), the invention of Haumont et al. overcomes this problem by only transmitting "some of the packets of data" to a group of neighboring base station transceivers (See page 1 paragraph 10 of Haumont et al.).

In response to Applicant's argument that Haumont et al. fails to disclose a system having both a central buffer in the base station controller and distributed buffers in a plurality of base stations serviced by the base station controller (See section 1. a. of Applicant's arguments on page 13 of the Appeal Brief), the Examiner agrees; however, this argument is moot since the claim rejections do not rely on Haumont et al. alone to teach this limitation. The claim rejections rather rely on a combination of the teachings of Haumont et al. with the teachings of Kim to render this claim limitation obvious. Further, it is pointed out that although Haumont et al. does not disclose an embodiment having both a central buffer in the base station controller and distributed buffers in the base stations, the base stations of Haumont et al. must inherently include some memory to receive and store data from the buffer of the base station controller before it is sent to the mobile station.

In response to Applicant's argument that because Kim sets out that different data and programming would be transmitted by the processor of the base station controller to each sub processor of the base transceiver station, the combination of Haumont et al.

and Kim does not disclose downloading a plurality of blocks of data of the group of blocks of data from a central buffer to a respective distributed buffer of the base station (See section 1. b. of Applicant's arguments on page 15 of the Appeal Brief), the Examiner respectfully disagrees. First, as discussed above, Haumont et al. discloses transmitting the same data from a buffer of a base station controller to multiple base transceiver stations. The claim element that is missing from the teachings of Haumont et al. is the plurality of distributed buffers located in the base transceiver stations. The teachings of Kim are used only to show a system and method where data is sent from a buffer of a base station controller to a buffer of a base transceiver station. Therefore, it is a combination of Haumont et al.'s teaching of transmitting the same data from a buffer of a base station controller to multiple base transceiver stations, with Kim's teaching of including distributed buffer memories in base transceiver stations, that is used to render to claim limitation obvious.

In response to Applicant's argument that Farley et al. does not relate to data packet loading for transmission purposes (See section 1. c. of Applicant's arguments on page 15 of the Appeal Brief), the Examiner respectfully disagrees. Farley et al. teaches a system and method whereby an acceptable number of bytes of data as defined by a window size are transmitted (See column 2 lines 27-48 of Farley et al.). Farley et al. also teaches that a next set of data is not sent until the previous data has been acknowledged as received. Therefore, Farley et al. does relate to data packet loading for transmission purposes.

In response to Applicant's argument that Kim fails to teach or suggest (1) downloading a group of blocks of data to a central buffer that services the active set of base stations, (2) for each of the active set of base stations, downloading a plurality of blocks of data of the groups of blocks of data form the central buffer to a respective distributed buffer of the base stations, and (3) downloading a next plurality of blocks of data of the group of blocks of data from a central buffer to the respective distributed buffer of each base station of the active set of base stations as required by claim (See section 1. d. of Applicant's arguments on page 16 of the Appeal Brief), the Examiner agrees that Kim alone to not teach each of these limitations; however the claim rejections do not rely on Kim's teaching alone to render these claim limitations obvious. First, it is pointed out that the teachings of Haumont et al. not Kim are used in the rejections to disclose limitations (1) and (3) above, thus Applicant's argument regarding these limitations is moot. Further, as shown in the previous paragraph, limitation (2) above is rendered obvious by the combined teachings of Haumont et al. and Kim. Also it is noted that the Applicant's title for section 1. d. of the Applicant's arguments, "Hypothetical Combination of Haumont, Kim, Farley, Stawczynski, Padovani, and/or Kumar does not achieve Appellant's claimed invention", is misleading as there are no claims that have been rejected under a combination of all of these references. Claim 1, which the Applicant addresses in section 1. d. of the Appeal Brief, has been rejected using a combination of Haumont et al., Kim, and Farley et al. only.

In response to Applicant's argument that the motivations used to combine the teachings of Haumont et al., Kim, and Farley are improper because they are based

upon knowledge of the Appellant's claimed invention (See section 2. of Applicant's arguments on page 17 of the Appeal Brief), the Examiner respectfully disagrees. The motivation to combine the teachings of Haumont et al. and Kim, such that a base station is allowed to directly control the retransmission of a data packet that is not acknowledged as being correctly received by a mobile station without having to again receive the data packet from the base station controller, comes directly from the teachings of Haumont et al. Haumont et al. discloses a first embodiment where each of the base transceiver stations is provided with a buffer to store packets that may be retransmitted directly from the base transceiver station to the mobile station (See page 4 paragraphs 49-51 of Haumont et al.). The embodiment of Haumont et al. relied upon in the rejections does not include a buffer in the base transceiver stations and therefore requires a retransmitted packet to be sent again from the base station controller to the base station transceiver before it is sent to the mobile station (See page 6 paragraph 79 of Haumont et al.). Thus the advantage of using a buffer in each base transceiver station such that they are allowed to directly control the retransmission of a data packet that is not acknowledged as being correctly received by a mobile station without having to again receive the data packet from the base station controller is found in the teachings of Haumont and is not based upon knowledge of the Appellant's claimed invention. Similarly, the motivation to combine the teachings of Farley et al. with the teachings of Haumont et al. comes directly from the teachings of Farley et al. Farley et al. discloses using a sliding window protocol that directly has the purpose of and the advantage of keeping a transmission buffer full while only sending an amount of data

that a mobile station can handle. Thus this advantage is taught by Farley and is not based upon knowledge of the Appellant's claimed invention.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Jason Mattis

Conferees:

Huy Vu

Lynn Feild

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600